

MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
AIR QUALITY TECHNICAL ADVISORY COMMITTEE MEETING

Thursday, October 26, 2006
MAG Office
Phoenix, Arizona

MEMBERS PRESENT

Stephen Cleveland, City of Goodyear, Chairman
*Michael Powell, Avondale
Lucky Roberts, Buckeye
#Jim Weiss, Chandler
#Jamie McCullough, El Mirage
Lisa Taraborelli for Tami Ryall, Gilbert
Doug Kukino, Glendale
#Greg Edwards for Scott Bouchie, Mesa
Joe Gibbs for Gaye Knight, Phoenix
*Larry Person, Scottsdale
Antonio DeLaCruz, Surprise
Oddvar Tveit, Tempe
#Larry Crisafulli for Walter Bouchard, Citizen Representative
*Bill Pfeifer, American Lung Association of Arizona
#Barbara Sprungl, Salt River Project
Brian O'Donnell, Southwest Gas Corporation
*Jim Mikula, Arizona Public Service Company
*Gina Grey, Western States Petroleum Association
*Randi Alcott, Valley Metro
Dave Berry, Arizona Motor Transport Association
Jeannette Fish, Maricopa County Farm Bureau
*Russell Bowers, Arizona Rock Products Association
*Michelle Rill, Greater Phoenix Chamber of Commerce

Amanda McGennis, Associated General Contractors
*Connie Wilhelm-Garcia, Homebuilders Association of Central Arizona
*Stephen J. Andros, American Institute of Architects - Central Arizona
*Mannie Carpenter, Valley Forward
*Patrick Clay, University of Arizona - Cooperative Extension
Beverly Chenausky, Arizona Department of Transportation
Peter Hyde, Arizona Department of Environmental Quality
#Wienke Tax, Environmental Protection Agency
Jo Crumbaker, Maricopa County Air Quality Department
Duane Yantorno, Arizona Department of Weights and Measures
*Ed Stillings, Federal Highway Administration
*Judi Nelson, Arizona State University
#Christella Armijo for B. Bobby Ramirez, Salt River Pima-Maricopa Indian Community
*David Rueckert, Citizen Representative

*Members neither present nor represented by proxy.
#Participated via telephone conference call.
+Participated via video conference call.

OTHERS PRESENT

Lindy Bauer, Maricopa Association of Governments
Cathy Arthur, Maricopa Association of Governments
Dean Giles, Maricopa Association of Governments
Julie Hoffman, Maricopa Association of Governments
Paul Ward, Maricopa Association of Governments
Eric Anderson, Maricopa Association of Governments

Ranjith Dandanayakula, Maricopa Association of Governments
Ieesuck Jung, Maricopa Association of Governments
Taejoo Shin, Maricopa Association of Governments
Robert St. John, City of Glendale
Scott Di Biase, Pinal County
Diane Arnst, Arizona Department of Environmental Quality
Jody Noble, Environmental Stabilization Solutions

1. Call to Order

A meeting of the MAG Air Quality Technical Advisory Committee was conducted on October 26, 2006. Stephen Cleveland, City of Goodyear, Chair, called the meeting to order at approximately 1:35 p.m. Greg Edwards, City of Mesa; Jamie McCullough, City of El Mirage; Jim Weiss, City of Chandler; Christella Armijo, Salt River Pima-Maricopa Indian Community; Barbara Sprungl, Salt River Project; Wienke Tax, Environmental Protection Agency; and Larry Crisafulli, Citizen Representative, attended the meeting via telephone conference call.

2. Call to the Audience

Mr. Cleveland stated that, according to the MAG public comment process, members of the audience who wish to speak are requested to fill out comment cards, which are available on the table adjacent to the doorway inside the meeting room. Citizens are asked not to exceed a three minute time period for their comments. Public comment is provided at the beginning of the meeting for nonagenda items and nonaction agenda items. Mr. Cleveland noted that no public comment cards had been received.

3. Approval of the September 28, 2006 Meeting Minutes

Mr. Cleveland noted that the September 28, 2006 meeting minutes had been revised to reflect that Cynthia White, City of Chandler, attended the meeting by telephone. The revised minutes were provided at each place. Amanda McGennis, Associated General Contractors, indicated that there was a typographical error on page eight of the revised minutes. Ms. McGennis moved and Joe Gibbs, City of Phoenix, seconded and the motion to approve the September 28, 2006 meeting minutes as corrected carried unanimously.

4. CMAQ Project Evaluation Process

Eric Anderson, Maricopa Association of Governments, provided an overview of the Congestion Mitigation and Air Quality Improvement (CMAQ) Project Evaluation Process. He mentioned that the MAG Transportation Policy Committee (TPC) is the senior policy committee relating to transportation issues. Mr. Anderson stated that the TPC first met in September 2002 to begin work on the Regional Transportation Plan (RTP). The RTP was completed by the TPC in September 2003 and was approved by the MAG Regional Council in November 2003 following air quality conformity findings. Mr. Anderson expressed the importance of the RTP since it was the foundation for Proposition 400.

Mr. Anderson stated that Proposition 400, which was approved by voters in November 2004, extended the half-cent sales tax. He mentioned that the RTP includes the expected revenues from the 20 year extension of the half-cent sales tax and estimated 20 years of Arizona Department of Transportation funding. Mr. Anderson added that the RTP and fund allocations were approved by the State Transportation Board subsequent to Regional Council approval. He stated that the RTP also includes 5307 funds (federal transit formula funds), 5309 funds (discretionary grants from the Federal Transit Administration), Surface Transportation Program Funds (STP), and CMAQ funds.

Mr. Anderson mentioned that during deliberations of the TPC and subsequent approval of the Regional Council, the fund allocations were incorporated into the RTP. He stated that the projects listed in the RTP are commitments made to the voters in Proposition 400. Mr. Anderson indicated

that the fund allocations in the RTP could be changed with action by the TPC and Regional Council; however, it is important to respect the initial allocations. He added that the allocations for the sales tax extension are now in state law. Mr. Anderson mentioned that the RTP is a multimodal plan and the first plan approved by voters that provides significant funding for transit and intelligent transportation systems, bicycle and pedestrian programs, extensions/widening/improvements to existing freeways, construction of new freeways, and a major arterial street component.

Brian O'Donnell, Southwest Gas Corporation, inquired about the members of the TPC. Mr. Anderson replied that the TPC consists of 17 elected officials and six private sector representatives. Mr. O'Donnell referred to a situation where the Committee made a recommendation that was changed by another committee. Lindy Bauer, Maricopa Association of Governments, responded that the MAG Transportation Review Committee (TRC), a technical transportation committee, is primarily responsible for building the MAG Transportation Improvement Program (TIP). During the closeout process this year, the TRC changed a portion of the recommendation made by the Committee to fund the remaining street sweepers. The TRC recommendation removed the street sweepers that had a very small impact on PM-10. She added that the funds were put towards other projects that had a larger impact on PM-10.

Mr. O'Donnell indicated that the recommendation made by the Committee never went to the policy committee. He commented on the TRC providing an explanation for changing a recommendation made by another committee. Mr. Anderson replied that the TRC members consist of public works directors, transportation engineers, intergovernmental coordinators, and city managers. He described that the transmittal summary includes the recommendations from all committees as the agenda item moves through the MAG committee structure. Mr. Anderson stated that the minutes would include the explanation for changing the recommendation and that changes are typically mentioned during the presentation of the agenda item. He indicated that MAG will look into providing a written explanation of changes made to recommendations.

Dave Berry, Arizona Motor Transport Association, commented on the possibility of having the Chairman at the meetings to discuss the Committee recommendation. He mentioned that after hearing the presentation by Mr. Anderson, reflecting on the September 28, 2006 meeting, and speaking with MAG staff, his enthusiasm to address PM-10 had caused him to forget about the fund allocations in the RTP. The motion made at the September 28, 2006 meeting goes against the fund allocations. Mr. Berry stated that some of the fund allocations in the RTP are set in statute and others are part of an agreement for the half-cent sales tax extension. Mr. Berry mentioned that the message is clear about having the funds go to the most effective projects at addressing PM-10. Also, to the extent there are very cost-effective measures that address PM-10, the Committee feels it is a high priority to find the funding. Mr. Berry made a motion to rescind the motion to recommend that the TPC consider reallocating funds in the TIP to air quality projects that address the dust control problem and invite more air quality projects to be submitted from the community. Doug Kukino, City of Glendale, inquired about the process for rescinding a motion. Mr. Cleveland stated that the first step is to rescind the motion. The next step would be to determine if any other actions were taken as a result of the motion. Mr. Kukino seconded the motion.

Peter Hyde, Arizona Department of Environmental Quality, referred to the fund allocation table from the RTP that was included in the agenda packet. He commented that 14.6 percent of CMAQ funds are for air quality. Ms. Bauer responded that there are also CMAQ projects within the other categories. She stated that all CMAQ projects either have an air quality or congestion mitigation

impact. The air quality projects are typically the demand management projects such as the rideshare programs, unpaved road projects, and street sweepers. Ms. Bauer mentioned that CMAQ can be used for transportation projects and programs that reduce transportation related emissions. She stated that CMAQ is allocated under freeways for the Freeway Management System, Intelligent Transportation Systems as part of the streets category, light rail transit, bicycle/pedestrian, and projects that are specific to the air quality plans.

Mr. Hyde stated that the percentage of CMAQ funds going toward projects that are effective at reducing PM-10 emissions is approximately five to ten percent of the CMAQ budget. He inquired about the flexibility for reallocating the funds. Mr. Anderson replied that the funds allocations in the RTP could be changed through the TPC and Regional Council as part of the annual plan update cycle. He mentioned a national debate about whether CMAQ funds should be used solely for air quality improvement or continue to be used for a combination of congestion mitigation and air quality projects. Mr. Anderson discussed the multimodal aspects of the RTP and stated that there are many benefits in addition to addressing PM-10. He added that changing the fund allocations in the RTP would be a big step that would require extensive discussion and that the region is in the first year of Proposition 400. He stated that the discussion would rest with the TPC and that the TRC was not involved in preparation of the RTP. The fund allocation recommendations were made by the elected officials and business representatives on the TPC. Mr. Berry commented that the RTP was incorporated into the vote to extend the half-cent sales tax, which makes reallocation tricky.

Mr. Anderson stated that the TRC met earlier in the day and did not take action on PM-10 Paving Unpaved Road Projects for FY 2008 and 2009 CMAQ funding. Since there was not enough CMAQ funding for all of the paving unpaved road projects, the TRC recommended that the communities with projects work together to determine if the amount of federal funding required could be reduced and the amount of local funding be increased so the CMAQ funds could go further. Mr. Anderson mentioned that the TRC heard the message from this Committee and are taking it seriously. He stated that the TRC will meet December 14, 2006 and there may be a modification to the recommendation that moves forward regarding paving unpaved road projects.

Mr. O'Donnell inquired about rescinding the motion to recommend that the TPC consider reallocating funds in the TIP to air quality projects that address the dust control problem and invite more air quality projects to be submitted from the community. Mr. Berry replied that the original motion would begin to break down the agreement embodied in Proposition 400. He stated that the motion needs to be rescinded from a process standpoint. Mr. Berry added that more work still needs to be done to address the problem and make sure the funds are allocated to the best projects to reduce PM-10.

Ms. McGennis inquired about the motion from the September 28, 2006 meeting. Mr. Gibbs stated that page four of the September 28, 2006 meeting minutes includes the vote on the motion to recommend that the TPC consider reallocating funds in the TIP to air quality projects that address the dust control problem and invite more air quality projects to be submitted from the community.

Wienke Tax, Environmental Protection Agency, asked if the percentages in the fund allocation table are a reflection of what was in Proposition 400. Mr. Anderson responded that the percentages are included in the RTP, which formed the foundation of Proposition 400. He stated that maps and projects from the RTP were included in the detailed information that went to the voters as part of the ballot information pamphlet. Mr. Anderson mentioned that the question on the ballot was to extend

the half-cent sales tax as indicated in the RTP. He added that there are projects in the RTP that would be funded from multiple sources. Mr. Anderson stated that having all of the sources in the RTP gives the region a very integrated plan.

Beverly Chenauskay, Arizona Department of Transportation, referred to the fund allocation table and clarified that the voters approved the percentages in the half-cent sales tax column. She added that there are no funds allocated in the half-cent sales tax column of the table for bicycle/pedestrian projects; however, the RTP states that bicycle/pedestrian projects would be federally funded through CMAQ funds. Mr. Cleveland called for a vote on the motion to rescind the motion to recommend that the TPC consider reallocating funds in the TIP to air quality projects that address the dust control problem and invite more air quality projects to be submitted from the community. The motion carried with Mr. Hyde voting no.

Mr. Cleveland mentioned that the message is loudly stated that air quality is a significant issue. He added that this is the first year of a 20 year plan and there will be a lot of opportunities in the future. Mr. Berry stated that it would be beneficial to get guidance on how the Committee can move forward within the parameters. He discussed the need to stop the creation of new unpaved roads and inquired about the process for creating new unpaved roads. Mr. Cleveland asked if Maricopa County could provide information for the next meeting. Jo Crumbaker, Maricopa County Air Quality Department, discussed the sensitivity of the issue. She stated that new unpaved roads are primarily because of lot splits. Ms. Crumbaker provided background information on lot split regulation and mentioned that it is currently being discussed. She stated that she will report back on any information available. Mr. Cleveland stated that Ms. McGennis may want to share information from the Town Hall with Ms. Crumbaker regarding lot splits.

5. Dust Suppressant Information

Ms. McGennis presented a dust suppressant case study used in the Salt River area. She provided background information on the Associated General Contractors (AGC) and discussed AGC and Arizona Rock Products Association involvement in the case study. Ms. McGennis stated that the City of Phoenix resumed enforcing a Neighborhood Preservation Ordinance, Chapter 39 and that a section of the ordinance applied to a number of AGC members in the Salt River area. She mentioned that the ordinance requires some corrective action when parking and maneuvering vehicles on a nonpaved surface. Ms. McGennis provided the definition of dust proof paving in the ordinance and indicated that paving was too expensive for some members of the AGC.

Ms. McGennis stated that Environmental Stabilization Solutions (EnSSo) conducted test sections on a mine site in Pinal County using a product called EnSSo Emulsion. Ms. McGennis mentioned that the product is a tall oil pitch emulsion, 100 percent organic, biodegradable, nonwater soluble, and a lot less expensive than some of the alternatives. She also discussed the various types of applications. Ms. McGennis stated that based on the statistics at the mine site, AGC contacted EnSSo and requested test cases in the Salt River area. She noted that EnSSo paid for the product used in the test cases. Ms. McGennis discussed a test case conducted at Reuter Equipment.

Ms. McGennis mentioned that EnSSo Emulsion was also applied to the 27th Avenue right-of-way in the Salt River area. She indicated that EnSSo combined recycled asphalt with the product due to the amount of traffic use on the test section. She mentioned that the shoulder stabilization has eliminated dust, requires little to no maintenance for 3-5 years, and the annual maintenance coat will

maintain surface stability indefinitely. Ms. McGennis asked that if other communities are considering adopting ordinances similar to the City of Phoenix, that an approved paving technique other than asphaltic concrete, cement concrete, or seal coat be considered. She also discussed a test case where EnSSo Emulsion had been applied to a construction site.

Mr. Gibbs commented on how well the product worked on the 27th Avenue test case. He clarified that the City of Phoenix conducted a proactive targeted enforcement of the Neighborhood Preservation Ordinance, Chapter 39. Mr. Gibbs added that the City of Phoenix typically enforces the ordinance on a complaint only basis due to staffing restrictions. He also stated that alternative paving methods are being done in the context of the urban heat island effect. The issue faced is the durability of the products. Ms. McGennis stated that using recycled products along with the emulsion may prove to be great alternatives. She added that she appreciates that the City of Phoenix has taken a leadership role in addressing dust emissions in the Salt River area.

Mr. O'Donnell asked if recycled asphalt was used in the construction site test case. Ms. McGennis replied that there is not much traffic on that site so just the product was used for stabilization. Mr. O'Donnell inquired about situations where just the product could be used. Ms. McGennis responded that recycled asphalt would likely be needed if there is truck traffic.

Mr. Hyde asked if concrete or asphalt would be preferable in some instances when the cost of the lifetime of the surface is amortized. He inquired if a lifetime cost analysis has been completed. Ms. McGennis that she would report back to the Committee. She added that shoulders are a problem in the Salt River area and a lot of creative thinking is needed to address the issue within the budget.

Mr. Cleveland referred to the definition of dust proof paving in the ordinance that included the cost for the different methods of paving. He suggested that the AGC apply the cost for the different paving methods to the test cases and bring the information back to the Committee. Mr. Cleveland encouraged creative ideas being brought forward to the Committee. He mentioned the City of Phoenix Neighborhood Preservation Ordinance, Chapter 39 as something other communities may want to consider. Mr. Cleveland indicated that he needed to leave and that Mr. Kukino would be Acting Chair for the rest of the meeting.

6. MAG Biogenics Study

Taejoo Shin, Maricopa Association of Governments, provided the results of the MAG Biogenics Study. He stated that biogenic source emissions are background emissions in estimating ozone concentrations. Mr. Shin mentioned that MAG contracted with ENVIRON International, Inc. to develop a state-of-the-art biogenics modeling system for the Maricopa County eight-hour ozone nonattainment area. He added that Dr. Alex Guenther, National Center for Atmospheric Research, was the subcontractor for the study. Mr. Shin discussed the timeline for the study and presented the field study results.

Mr. Shin discussed the Model of Emissions of Gases and Aerosols from Nature (MEGAN) model. He presented the MEGAN emission rate formula and stated that there are eleven modules in the MEGAN model. He mentioned the MEGAN Driving Variables Processor and presented the MAG Air Quality Modeling Chain. Mr. Shin discussed the temperature sensitivity of MEGAN volatile organic compounds (VOC) emissions for the eight-hour ozone modeling domain. He presented the VOC emission comparison between MAGBEIS2, the biogenics model previously used by MAG, and MEGAN and indicated that MEGAN estimated approximately 60 percent higher VOC emissions

for the eight-hour ozone modeling domain than MAGBEIS2. Also, MEGAN estimated about 30 percent lower VOC emissions in the urban area than MAGBEIS2. Mr. Shin added that MEGAN estimated slightly lower nitrogen oxide (NOx) emissions than MAGBEIS2.

Mr. O'Donnell inquired about a temperature correction in the formula due to the high temperatures in the region. Mr. Shin replied that the emission rate should be higher at a higher temperature. Mr. O'Donnell asked if the MEGAN model is good for the region. Mr. Shin responded that the MEGAN model is state-of-the-science and based on the latest local observations. He mentioned that the field study conducted in Maricopa County as part of the MAG Biogenics Study measured emission rates during the summer of 2006. Mr. O'Donnell asked if the results were compared to the formula. Mr. Shin replied that the formula is developed based on the local measurements.

Mr. Hyde stated that biogenic emissions are mostly hydrocarbons from plants and that it is critical to determine how biogenic emissions vary by hour. Mr. Hyde commented on the metabolism of desert plants shutting down when the temperature reaches 100 to 105 degrees. He asked if any discussions on that issue occurred during the study. Mr. Shin responded that the MEGAN model requires the input of hourly temperature data.

Mr. Berry inquired about the certainty of the MEGAN model. Mr. Shin responded that the MEGAN model gives an approximation of biogenic emissions. Mr. Berry commented on the extreme sensitivity to temperature. Mr. Shin replied that higher biogenic source emissions are located in nonurban areas. Mr. Berry asked if the region should be reducing VOC emissions. Mr. Shin responded that is correct. He added that certain plant species produced higher VOC emissions.

Mr. Berry commented on balancing the heat island effect, greenhouse gases, and biogenic emissions. Mr. Kukino stated that biogenic emissions are part of the natural background and the study provided the region with an estimate of the biogenic emissions as part of the natural background. He mentioned that policy implications about what plant species to grow in backyards is another question. Mr. Kukino inquired about how the higher VOC emissions will impact air quality modeling and efforts to implement control measures to reduce air pollution.

Mr. Berry commented on the higher VOC emissions according to the study and inquired about the relationship between VOC and NOx emissions. Cathy Arthur, Maricopa Association of Governments, replied that the increase in VOC emissions is in the nonurban area. The MEGAN models shows 30 percent lower VOC emissions in the urban area. Ms. Arthur indicated that the MEGAN model, emission rates for VOC and NOx from urban sources, wind fields, and chemistry will all be incorporated into the modeling for the eight-hour ozone standard. She added that the information will be brought to the Committee to see the impact on eight-hour ozone in 2008. Mr. Berry inquired about the NOx waiver. Ms. Arthur replied that MAG is conducting tests to determine if NOx decreases will increase or decrease ozone. She added that this information will also be presented to the Committee in the future. Mr. Berry commented on the new diesel fuel that reduces NOx.

Lucky Roberts, Town of Buckeye, asked if development teams should be encouraged to preserve desert areas instead of constructing green belts in order to reduce VOC emissions. Ms. Arthur replied that there are trade-offs. As was mentioned earlier, there is the heat island effect, greenhouse gases, and VOC emissions. Ms. Arthur stated that policies may differ. She mentioned that based on the MEGAN model, urbanization is reducing biogenic emissions.

Jamie McCullough, City of El Mirage, asked if the native desert plants are emitting more VOC emissions than the urban landscaped areas. Ms. Arthur responded that there are vegetation types in the desert that tend to be more dense in the nonurbanized area. She stated that if the same vegetation density were located in the urbanized area, it would emit the same amount of VOC emissions. Ms. Arthur added that there are plant species of urban landscaping that also emit VOC emissions. Mr. Kukino asked if the urban or nonurban area produces more VOC emissions. Ms. Arthur replied that the nonurban area produces more VOC emissions according to the MEGAN model.

Mr. Gibbs inquired if the amount of VOC emissions emitted from urban and nonurban plant species would be available. Ms. Arthur responded that the field study included urban and nonurban plant species and the emission rates are representative of both types of vegetation. Mr. Gibbs asked how someone would choose whether to plant native or nonnative plants to reduce VOC emissions. Ms. Arthur referred to a table that includes the plant species and corresponding VOC emission rates.

7. New Particulate Pollution Standards

Ms. Bauer gave an overview of the new particulate pollution standards. She indicated that the Environmental Protection Agency (EPA) issued the Final Revisions to the National Ambient Air Quality Standards for Particle Pollution (Particulate Matter) on September 21, 2006. Ms. Bauer stated that EPA retained the annual PM-2.5 standard and lowered the 24-hour PM-2.5 standard from 65 ug/m³ to 35 ug/m³. She mentioned that according to Maricopa County, the region does not violate the new 24-hour PM-2.5 standard. The region has recorded high concentrations per year; however, the 98th percentile of the three year average remains below the new 24-hour PM-2.5 standard. Ms. Bauer stated that EPA revoked the annual PM-10 standard and retained the 24-hour PM-10 standard. She mentioned that since the region violates the 24-hour PM-10 standard, the Five Percent Plan for PM-10 is still required.

Mr. Hyde inquired about including the annual PM-10 standard in the Five Percent Plan since the region violates the standard. Ms. Tax responded that the annual PM-10 standard does not need to be included in the Five Percent Plan. She added that the annual PM-10 standard will be revoked 90 days after the Final Revisions to the National Ambient Air Quality Standards for Particle Pollution (Particulate Matter) appears in the *Federal Register*.

8. Call for Future Agenda Items

Mr. Kukino announced that the next meeting of the Committee is tentatively scheduled for November 30, 2006. Mr. Berry suggested a presentation on recommendations of the Governor's Climate Change Advisory Group. Mr. Kukino inquired about when control measures for the Five Percent Plan will be brought to the Committee for discussion. Ms. Bauer replied that Maricopa County will be bringing forward the 2005 Emissions Inventory for PM-10 for the next meeting. She stated that in November, MAG staff will project the 2005 Emissions Inventory to 2007 for the Five Percent Plan, which will also be presented at the next meeting. In addition, a preliminary draft list of ideas for control measures for the Five Percent Plan will be on the next meeting agenda. Ms. Bauer stated that the list will serve as a starting point to begin discussions. She mentioned that this will lead up to a recommendation from the Committee for suggested measures to the implementing entities in February/March 2007. Ms. Bauer added that MAG staff will also provide an overview of the measure selection process. With no further comments, the meeting was adjourned.